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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,878	03/15/2004	Kaoru Yamaguchi	250451US3	8350
22850	7590	03/22/2006	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			WERNER, JONATHAN S	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	

3732

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

6

<b>Office Action Summary</b>	<b>Application No.</b> 10/799,878	<b>Applicant(s)</b> YAMAGUCHI ET AL.	
	<b>Examiner</b> Jonathan Werner	<b>Art Unit</b> 3732	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/8/04, 6/21/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 10/8/04 and 6/21/05 are noted. The submission is in compliance with the provisions of 37 CFR 1.97.

Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant recites "a minor axis diameter of the adsorbing surface of the magnet structure of 1.1 to 1.4 with respect to the diameter of the cylindrical permanent magnet being 1." It is not clear what said range corresponds to or what the relationship is to the diameter of the magnet. For the purpose of examination, examiner will interpret the claim such that the ratio of the minor axis

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diameter of the adsorbing surface of the magnet structure to the diameter of the cylindrical magnet is 1.1 to 1.4.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honkura et al. (US 6,299,450) in view of Gillings (US 4,209,905). As to claims 1-3 and 9, Honkura discloses a dental magnetic attachment comprising a keeper (10) and a magnetic structure (1) comprising a cup yoke (12) formed of a soft magnetic structure (Abstract) and a cylindrical permanent magnet (11) embedded in a circular depressed part provided in a central part of the cup yoke (Figures 1-5), with the depressed part of the cup yoke sealed by welding (Abstract) with a circular disk plate (15) formed of a soft magnetic material through a non-magnetic ring seal (26) to form a plane adsorbing surface having the substantially same shape as the adsorbing surface of the keeper (Figures 1-5), with a minor axis diameter of the adsorbing surface of the magnet structure of 1.1 to 1.4 with respect to the diameter of the cylindrical permanent magnet being 1 [(diameter D / diameter DM) = (4.00 mm / 3.05 mm) = 1.31]. However, Honkura shows that the keeper is round instead of elliptical. Gillings teaches a dental magnetic

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attachment comprising a keeper (30) having an adsorbing surface forming an externally convex curved line in a major axis and an externally convex curved line in a minor axis continued to the externally convex curved line in the major axis (Figures 5-6 and 8).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to use a keeper having an adsorbing surface forming an externally convex curved line in a major axis and an externally convex curved line in a minor axis and having a ratio of a major axis diameter to a minor axis diameter of 1.02 to 2.0 since it has been held to be common knowledge in the art, as taught by Gillings (column 5, lines 60-62), that the keepers can take one of the various configurations as exemplified in Figures 5 to 7 in order to properly fit within a corresponding tooth stump, and whereby determining the optimum or workable ranges of the ratio of the major axis diameter to a minor axis diameter involves only routine skill in the art since the shape is essentially elliptical. As to claim 4, Gillings shows the adsorbing surface of the magnet structure (28) also has shape forming straight lines in parallel to each other in the minor axis (Figure 5). As to claim 5, the plane side surfaces opposite to each other are substantially parallel to each other (Figure 5). As to claim 6, Honkura discloses the ratio of the area of the cup yoke surface to the cross-sectional area of the permanent magnet is approximately 1.03 [cup yoke diameter ( $D = 3.10 \text{ mm}$ ), magnet area diameter ( $DM = 3.05 \text{ mm}$ ) (column 6, lines 30-37); thus cup yoke surface area =  $2.4025\pi \text{ mm}^2$  and magnet surface area =  $2.325\pi \text{ mm}^2$ , therefore ratio = 1.03]. As to claim 8, a column (51) is provided on a surface of the keeper opposite to the adsorbing surface (Figure 9). As to claims 10-12, it would be obvious to one having ordinary skill in the art at the time

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of the invention was made to ablate opposite sides of each component in order to properly obtain a keeper as described by Gillings and a corresponding cup yoke, i.e. ablating opposite sides of Gillings assembly in Figure 7 would produce a shape as seen in Figure 5.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Honkura et al. in view of Gillings further in view of Tanaka (US 5,788,493). Honkura and Gillings disclose a dental magnetic attachment as previously described, but fail to show a prehension bar is provided on a side part of the keeper. Tanaka teaches a dental magnetic attachment comprising a keeper (21) with a prehension bar (22). Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to add a prehension bar to the keeper in order to fix the keeper within a mold for casting purposes as taught by Tanaka.

### ***Conclusion***

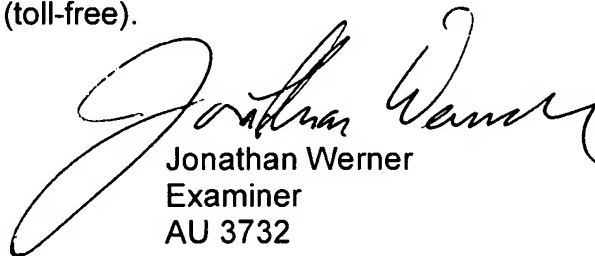
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please refer to included form PTO-892 for all additional pertinent prior art related to dental magnetic attachments.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Werner whose telephone number is (571) 272-2767. The examiner can normally be reached on Monday-Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Werner  
Examiner  
AU 3732

3/16/16



MELBA N. BUNGARNER  
PRIMARY EXAMINER